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imagery analysis report

Soviet Primorye-Class Intelligence Collection Ships (S)

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SOVIET PRIMORYE-CLASS INTELLIGENCE COLLECTION SHIPS (S)

SUMMARY

1. The electronics equipment aboard the six Soviet Primorye-class intelligence collection ships (AGIs) has been continually upgraded since 1975, and structural changes have been made to four of these AGIs since 1980. These improvements and changes have been made as the Soviets improve the state of the art of their shipboard electronics systems and as the missions of the Primorye AGIs are modified to meet changing collection requirements. (S/WN)

2. This report is in response to a National Security Agency request for detailed, imagery-derived analyses of the improvements and changes made to the six Primorye-class AGIs. An understanding of these improvements and changes will aid in assessing the AGIs' capabilities, which appear to be directly related to the specific collection requirements of each home fleet area of operations. Therefore, for presentation purposes, this report is arranged by fleet areas, and the modifications and changes are described in chronological order by unit. Satellite imagery acquired through as well as selected ground photography, was used in the preparation of this report. This report contains eight annotated photographs, a chart depicting the 1980 to 1984 modification/repair periods for each AGI, and a map depicting the usual operating areas of the AGIs. (S/WN)

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DESCRIPTION

3. The Primorye-class AGI was introduced into the Soviet Navy in 1970. This AGI is based on a hull design developed from the Mayakovskiy-class fish factory trawler and is the first Soviet AGI to be constructed and fitted out solely as an intelligence collector. All have an onboard intelligence processing and dissemination capability. The six Primorye-class AGIs were built at Nikolayev Shipyard Nosenko 444, in the Black Sea. They are:

Pendant No	Name	Assigned Fleet
SSV-464	Zabaykale	Pacific
SSV-465	Primorye	Pacific
SSV-501	Zaporozhe	Northern
SSV-502	Zakarpatye	Northern
SSV-590	Krym	Black Sea
SSV-591	Kavkas	Black Sea (S/WN)

4. The electronics equipment aboard all Primorye-class units has been continually upgraded, and the four units deployed in the Pacific and Northern Fleets have either undergone or are undergoing major structural changes. (S/WN)

Pacific Fleet

5. The SSV-464 Zabaykale and SSV-465 Primorye are home ported at Vladivostok Naval Base and Shipyard 202. Both units have also been modified and repaired at this facility.

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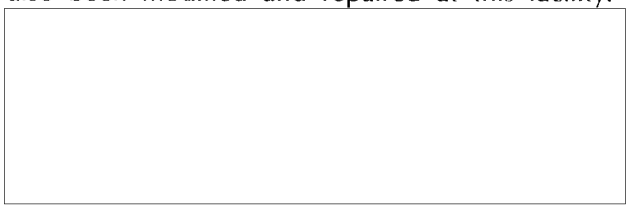

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SSV-464 Zabaykale

6. The SSV-464 (Figure 2) was assigned to the Pacific Fleet in 1971, after operating briefly in the Black Sea. By 1980, eight optical trackers/cameras (Figure 3) had been installed. These optical trackers/cameras are used to monitor missiles as they are launched and reentry vehicles prior to impact. Initial modification of the Zabaykale occurred during March and April 1980, when the goalpost was removed. SSV-464 was the first of its class to undergo a major structural change. Between December 1981 and April 1982, the aft signals-intelligence deckhouse was removed, and a rectangular opening was made in the roof of the forward sigint deckhouse (Figure 4). No electronics equipment or radar was discernible through the opening in the deckhouse, which is believed to house a large parabolic dish antenna. The aft sigint deckhouse was replaced with a trailer-mounted modified WILD CARD radar—a telemetry collector, and the center of the forward

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sigint deckhouse was raised (Figure 5). The addition of the WILD CARD gives SSV-464 the capability to monitor two widely separated targets simultaneously. (S/WN)

SSV-465 Primorye

7. The SSV-465, the lead ship of the class, was initially deployed in the Black Sea in early 1970 and later in the year was transferred to Vladivostok. By 1980, six optical trackers/cameras had been installed on this unit. This unit was at the repair quay in March and April 1980 and from late June through late September 1981. The aft goalpost was removed between June and September 1981. Major structural changes on SSV-465 began in mid-August 1984. By early September, the aft sigint deckhouse had been removed, and the center of the forward sigint deckhouse had been raised, indicating that when the modifications are complete, this unit will be similar to SSV-464 and be able to perform the same mission. The modified WILD CARD had not been installed on SSV-465 when this ship was last observed, on [redacted] (S/WN)

Northern Fleet

8. The SSV-501 Zaporozhe and SSV-502 Zakarpatye are home ported at Polyarnyy Naval Base South [redacted] Both units have been modified and repaired at Chalmpushka/Roslyakova Ship Repair Yard [redacted] The structural changes to these units and those in the Pacific Fleet bear some similarities. The electronics equipment modifications differ, however, because the units in the Pacific Fleet have different collection requirements. The Primoryes in the Northern Fleet operate along the east coast of North America, from Canada to Puerto Rico. [redacted]

SSV-501 Zaporozhe

9. The SSV-501 had been transferred to Polyarnyy Naval Base South by mid-1972, after a Mediterranean deployment. In 1975, a PERT SPRING satellite communications antenna was added to the front of the forward sigint deckhouse, improving the Zaporozhe's dissemination capability. Between February and early May 1981, the LARGE CROSS direction finder was replaced with a TWIN WHEEL DF, and a large camera was installed. Major structural changes began on SSV-501 in early April 1984. In September, the aft sigint deckhouse cover was removed intact and placed on the shore (Figure 6), indicating that after modifications are complete, the deckhouse will be reinstalled. In October, the forward sigint deckhouse was also removed. (S/WN)

SSV-502 Zakarpatye

10. The SSV-502 had been assigned to Polyarnyy Naval Base South by the end of 1972. In 1976, a TWIN WHEEL DF replaced the older LARGE CROSS DF on the mainmast. Additional electronics were added to the forward mast on the aft sigint deckhouse during 1981. This mast was reinforced to support the added weight of the new electronics. An additional electronics mast was also placed on the aft sigint deckhouse. Structural changes began in June 1983, when a [redacted] 25X1 diameter opening was made in the roof of the 25X1 forward sigint deckhouse, and the center of the 25X1 deckhouse was raised (Figure 7). As with the two Pacific Fleet units, no electronics equipment was discernible within the deckhouse. (S/WN)

Black Sea Fleet

11. The SSV-590 Krym and SSV-591 Kavkas 25X1 are home ported at Sevastopol Naval Base (BE [redacted] Modifications and repairs to both 25X1 units were completed at Sevastopol Naval Base and Shipyard Kilenbal [redacted] and Sevas- 25X1 topol Ship Repair Yard Bukhta Severnaya [redacted] 25X1 [redacted] No major structural changes have been 25X1 made to either of these units. The Black Sea Primoryes augment the two Northern Fleet Primoryes, which patrol the US east coast, and also col- 25X1 lect sigint in the Mediterranean Sea and in the 25X1 vicinity of Ascension Island when missile tests are conducted in the Atlantic Missile Test Range (Figure 1).[1] (S/WN)

SSV-590 Krym

12. The SSV-590 was assigned to Sevastopol Naval Base in May 1970. In 1975, two PERT SPRING antennas were added to the main mast. In 1977, five optical trackers/cameras were added. By 1980, the forwardmost mast had been removed

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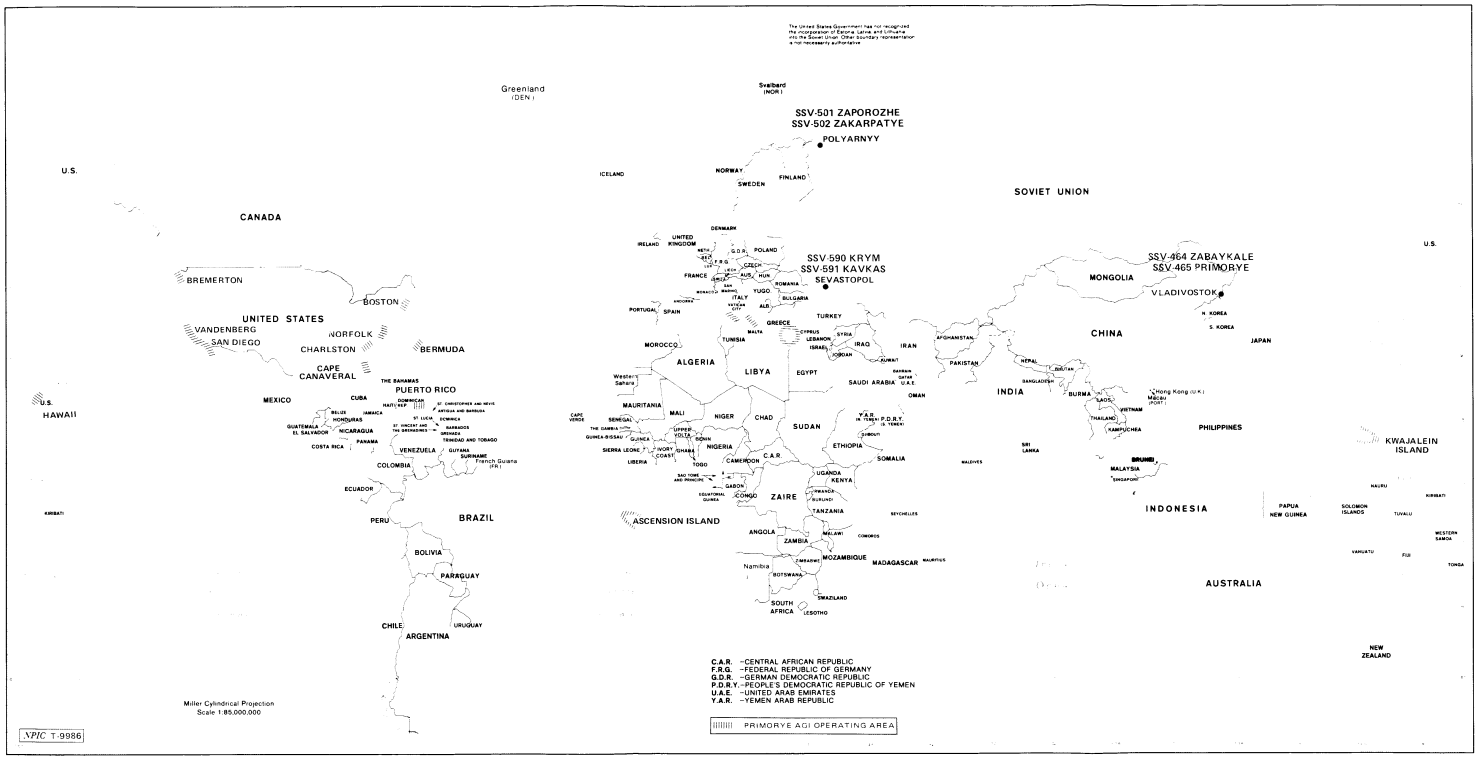

FIGURE 1. OPERATING AREAS OF THE PRIMORYE-CLASS AGIs

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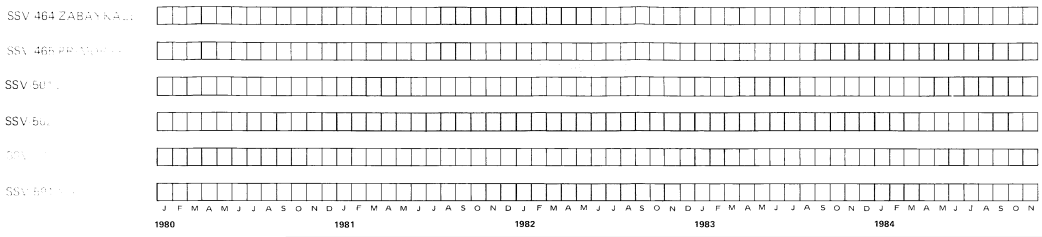
Chart 1.
Primorye-Class AGI Modification/Repair Periods, 1980–1984



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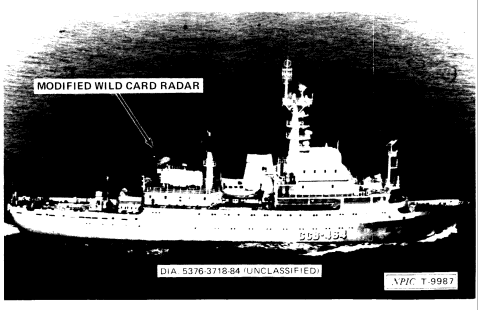

FIGURE 2. SSV-464 ZABAYKALE

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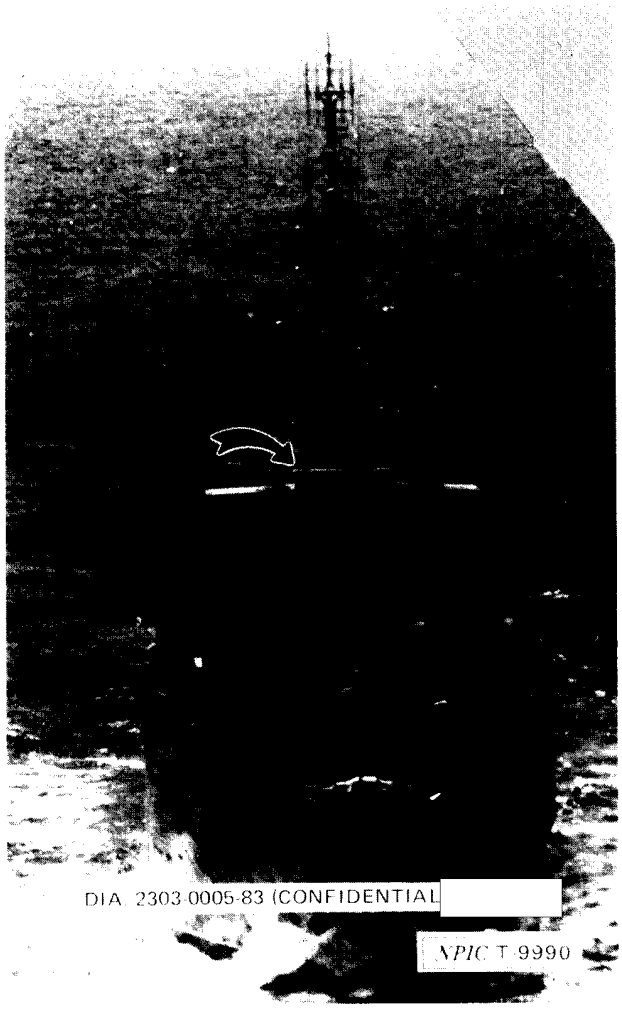

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FIGURE 5. RAISED CENTER OF FORWARD SIGINT DECKHOUSE ON SSV-464

from the unit, and a small platform was added to the outboard corners of the bridge face superstructure. In 1984, a BRICK SHELL electronics intercept antenna was placed on each of the small platforms (Figure 8). This unit was in a repair/modification status at Sevastopol from January through October 1980 (Chart 1), during which time an extension of a small housing between the aft sigint deckhouse and the goalpost was completed. The configurations of SSV-590 and SSV-591 are nearly identical, indicating that they collect against the same types of targets. (S/WN)

SSV-591 Kavkas

13. The SSV-591 was assigned to Sevastopol Naval Base in November 1970. In 1976, six optical trackers/cameras were installed (Figure 9); in 1977, a PERT SPRING antenna was affixed to the top of the goalpost. By 1980, the forwardmost mast had been removed from the unit, and a small platform had been added to the outboard corners of the bridge face superstructure. In 1982, the LARGE CROSS DF was replaced by a TWIN WHEEL DF. (S/WN)

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REFERENCES

IMAGERY

All applicable satellite imagery acquired between January 1980 and [redacted] and selected ground photography were used in the preparation of this report. (S/WN) 25X1

DOCUMENT

1. ESL Inc (a subsidiary of TRW Inc). SC-252-0023/82, TM-1478, *Capabilities and Functions of the Soviet Auxiliary Ships (U), Part I,* 12 Dec 81 (TOP SECRET [redacted] 25X1

*Extracted information classified SECRET.

Comments and queries regarding this report are welcome. They may be directed to [redacted] or [redacted] Soviet Air, Navy, Nuclear Division, Imagery Exploitation Group, NPIC, [redacted] (C) 25X1 25X1

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